Geohazards TEP (GEP) Interactive Development Environment

The Interactive Development Environment pack provides a secure environment in the Cloud for expert users to prototype and develop Earth Observation applications. The environment is powered by JupyterHub on top of a Kubernetes cluster supported by a distributed storage service.

This pack is targeted for thematic experts that want an environment to interactively develop applications, orchestrate existing deployed services together using ad-hoc software tools and libraries (e.g. SNAP, Orfeo Toolbox, GDAL) or perform data visualisation and analysis tasks. Data access mechanisms to Earth Observation data products from Copernicus Sentinel-1/2/3, ERS, ENVISAT, COSMO SkyMed, Landsat 8 or user-provided datasets are also available from that environment. Other missions (e.g. SPOT, Pléiades) are available on a case by case depending on the agreements with the data providers.

The support provided in this offering includes application templates, thematic examples, documentation and focuses on helping developers to integrate data discovery, access, processing and publishing services directly in their application code. The applications developed can be packaged and made ready for deployment in the Geohazards Exploitation Platform powered production Cloud exposed through a Web Service endpoint, Web Processing Service (OGC WPS).

About the Geohazards Exploitation Platform

The Geohazards Exploitation Platform (GEP) supports the geohazards community with on-demand processing for specific user needs or systematic processing to address specific area-of-interest analysis. The GEP processing services include basic services providing full resolution imagery and change detection imagery for rapid online visualization and advanced services both for Optical & SAR data processing. The advanced services include Classic InSAR diachronic analysis, Advanced InSAR for Persistent Scatterers and Small Baseline time series, Digital surface model generation from satellite optical stereo images and Detection and measurement of horizontal ground motion from Optical imagery.

The GEP provides also a dedicated Cloud application integration environment with software tools, libraries and access to distributed Earth Observation data repositories powered by dedicated ICT resources and storage. Packaged algorithm can be deployed, operated and delivered as a service in the Geohazards Exploitation Platform.

The GEP Processing Services have access to the 70+ Terabytes of ERS and ENVISAT archive data and the Copernicus Sentinel-1 available online. The optical data such as the Copernicus Sentinel-2 and Sentinel-3 and the third party missions SPOT, Pléiades and Landsat 8 complement the data resources.